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ABSTRACT

This taxonomy of teacher performance is geared to individualization among teachers. The procedure used in developing this taxonomy involved the specification and selection of a data bank of teacher behaviors, the organization of these behaviors into a meaningful structure, a deductive process of modifying the structure to better correspond to the assumed criteria, and empirical evidence concerning the differentiation among the categories in the established structure. The initial taxonomical structure was based on six functions to be performed dealing with teacher behaviors without reference to student outcomes. The second taxonomical structure was divided into six teacher behaviors identified as student outcome or teacher outcome in both the cognitive and/or affective domains. The second structure, supported to some degree of empirical evidence, provides a framework for development of evaluation techniques and provides guidelines for individualizing teacher preparation programs and utilization of teachers in the field. (Author/MJM)

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TO EACH HIS OWN: DEVELOPMENT OF A TAXONOMY OF TEACHER PERFORMANCE GEARED TO INDIVIDUALIZATION AMONG TEACHERS

(Paper Presented at AERA, 1972, Chicago, Illinois)

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Need for individualizing in teaching practice.

After all the research that has been conducted concerning "effective" or "good" teaching and all the theorizing that has taken place concerning conceptual models for teacher education, school districts find themselves bereaved of "effective," even adequate, teachers who can meet the instructional needs of individual children. State Departments find themselves unable to specify the criteria by which teachers should be certified. Teacher-training institutions find themselves criticized for not meeting the ambiguously stated needs of the school systems and for not providing the leadership in bringing more system to what is potentially a chaotic situation. The test developers find themselves blamed for having succumbed to the comfort provided by limited definitions of effective teaching and thus having perpetuated irrelevant goals for teachers to be. Doubtless, the reasons for such dissatisfaction are complex. This paper is concerned with only one of possible many, namely the unrealistic expectations that have been imposed on the teachers without sufficient regard to their individual strengths and preferences. A differentiated functions model utilizing the behavioral specification of teaching performances is proposed as one possible solution to the problem.

Teachers have typically been expected to be all things to all people. They are called upon to diagnose student needs; to act as pseudo-psychologists in coping with students' social, motivational, and emotional needs; to develop or modify curricula for individual needs where interdisciplinary teams of curriculum specialists have failed to do so; to

manage, direct and supervise groups of children; to counsel children and be sensitive to their vocational and extracurricular interests; to be experts in at least one, and often more, subject-matter areas; and after all that, to be a dedicated professional who continues to love children in a community which has little love or respect for a teacher to begin with.

Obviously, the various roles and functionism which are customarily classified under the label of teaching need to be differentiated more clearly to allow for more specialized functioning of individuals participating in the instructional process. Futhermore, such differentiation may move away from specialization for a particular grade level(s) or particular subject-matter to specialization in some functions which are more generally applicable across grade levels and subject-matter areas. The implication is not to do away with subject-matter specialization, but to identify the behaviors to be performed by the teacher in the instructional process and to help separate the type of instruction given by the teacher from the type that can be given by independent study materials.

A clear differentiation of teacher functions with behaviors defining each has many advantages: First, it provides a move towards clearer specification of desired teacher performances. Many schools badly need this type of specification to be able to respond to the pressures of accountability and to statewide trends towards certification of teachers by competency in performance.

Second, it may lend itself to the development of modular evaluative instruments which can be used to obtain a profile for an individual

teacher showing both strengths and weaknesses. Currently, prospective teachers are evaluated in two main ways: by the National Teacher Examination, or by their supervisors' limited and unsystematic observations during student-teaching. These evaluations rarely give specific information about the strengths and weaknesses of an individual. Rather, they appear in the form of global statements or a somewhat useless exam score. A profile indicating the individual's strengths and weaknesses along some taxonomic dimensions would enable school districts with different philosophies, interests, and needs to select teachers whose competencies and strengths match the needs of the school at a particular time.

The educational enterprise is currently in flux. While some schools are characterized by rapid change, others are still practicing rather traditional methods, and probably both types have some educational advantages in different contexts. The more progressive schools recognize that the teacher's role in the instructional process must be modified and changed considerably in light of (a) technological advances, (b) further specification of pupil behavioral objectives in the cognitive and affective domains, and (c) shifts in instructional choices and responsibilities with which individual children may be entrusted. Yet, teachers in these progressive schools frequently perceive the changes as additional demands placed on them characterized by more in-service courses. Therefore, some of these schools committed to change, often find their teachers unable to cope with and resistant to the elements of change. Especially at a time like this, it becomes all the more important to introduce a systematic approach which can enable change without destroying the advantages of what exists. Individualization applied to teaching practices may be a

good way to utilize each teacher's strength in meeting the broad objectives of schools. Differentiating among the functions to be served by teachers may be the first step towards implementing the type of individualization that seems to be badly needed not only in teacher preparation programs but in staff utilization as well. Schools can utilize the strengths of teachers already employed without threatening them with further and new demands, at the same time, retrain or hire others to perform the specific tasks which are needed in order to adjust to the demands of an ever-changing society. Specification of differential functions applied to educational practice would serve as a guide to a systematic assessment of the school's needs and an individualized approach to redeployment, in-service training, and hiring of personnel.

Developing a taxonomy of differentiated teaching functions.

Underlying criteria, and assumptions.

A number of desirable criteria constituted the pillars of the foundation upon which a taxonomy could be developed. It was assumed that the achievement of these criteria would in fact be a step toward improving current practice in teaching as well as the preparation and evaluation of teachers.

1. A taxonomy should provide a meaningful structure to behaviorally stated teaching functions.
2. The behavioral statement should be of a generic type and applicable to but not limited to a given subject matter or a given grade level.
3. The relationship of the teaching functions to the student outcomes should be determinable, whether or not such

relationship exists.

4. The taxonomy should enable a differentiation among teachers as to their individual preferences and competencies.
5. The taxonomy should provide a frame of reference for the assessment of teachers currently employed, the identification of gaps where they exist, and the hiring of new personnel to full the gaps rather than either the replacement or retraining of teachers who already have some competencies in some areas.
6. A taxonomy should provide a frame of reference for teacher-training institutions to determine the products of their programs, and to introduce alternative programs to candidates desiring different objectives.

Procedure.

The procedure in developing the taxonomy proposed here involved first the specification and selection of a data-bank of teacher behaviors, second, the organization of these behaviors into what seemed to be a meaningful structure, third, a deductive process of modifying the structure to better correspond to the assumed criteria, and finally, an attempt to obtain some empirical evidence concerning the differentiation among the categories in the established structure, in terms of teachers' judgments as to the importance of these behaviors in teaching.

Selecting a data bank of teacher behaviors. A number of sources were tapped in deriving, selecting and also generating some teacher behaviors which appeared to be desirable to either researchers, professional educators in teacher-training, administrators in schools, students, or

the teachers themselves. These sources are described below.

a. Systematic review of the literature. Many basic sources were reviewed. Gage's analysis of the concept of teaching (1964), the twenty-two groupings of teacher behavior by Ryans (1962), Bell's study of teaching competence (1962), Goodlad's description of the teacher functions in individualizing instruction (1963), Hite's discussion of how a teacher teaches (1966), Taba's work in teaching strategies for cognitive growth (1967), Suchman's inquiry training techniques (1967), Wallace's categories of teacher functions (1970), and Kaya's analysis of elementary school practices (1967) are examples of the works sampled.

b. Review of video tapes and classroom observation records. A great deal of effort has gone into the study of teachers in the classroom as exemplified by Flander's work (1967), micro teaching techniques (Allen, 1966), and observational studies such as Medley's OScAR (1967). The running accounts of classroom observations obtained in our own studies over the past few years also yielded some desirable teacher behaviors which could be included in a data-bank.

c. The data bank of teacher behaviors which have been compiled by the Teacher Behavior Group at the Educational Testing Service at Princeton, New Jersey, was examined.

d. Administrator, teacher, and student opinions were solicited in school districts which have cooperated with us over the past few years to obtain teacher behaviors which were

perceived as relevant to meeting local needs. (This activity not only contributed to the data bank of teacher behaviors but often served to sensitize the teachers in the districts to the district's expectations of them.)

Inductive organization of behaviors into an initial structure. At first, going over the obtained teacher behaviors proved rather frustrating. Even when behaviorally stated, (and one could argue a long time about what level of specification is acceptable as behavioral) they seemed to form no particular pattern with a consistent level of discourse. They did suggest, however, what seemed to be a heuristic list of categories with some hierarchy in the types of functions to be performed. The framework for this initial structure is presented in Table 1.

Table 1. Sample Performances in the Initial Taxonomic Structure

	FUNCTIONS TO BE PERFORMED					
Hierarchies	Diognosis and Evaluation	Preparing for Instruction: Organizing, Selecting, Prescribing Curriculum	Communication	Classroom Management and Routines	Counseling	Community Relations
Has full responsibility for instructional decisions and for lower hierarchies.	Reviews individual profiles recommends for placement. Gives evaluation based on evidence. Decides what evaluation technique.	Translates State guides into local objectives. Arranges learning tasks sequentially. Integrates content with process objectives.	Finds ways of improving communication with children. Consults with teams on means of presenting information.	Coordinates team in class management. Decides on grouping practices. Coordinates groups for social and academic experiences.	Advises staff and students on most problems. Presents students with alternatives from them. Decides referrals.	Is in contact with parents. Selects community resources for instructional purposes. Coordinates field trips children are interested in.
Is placed in charge and makes some instructional decisions.	Conducts observations. Gives personal evalution of students. Identifies causes of errors when child makes a mistake.	Designs a course of study for each child. Selects from alternative teaching strategies. Involves children in planning their study.	Conducts group discussions, gives explanation. Elicits responses. Tutors individuals. Uses AV where it helps the communication.	Establishes, varies or eliminates seating arrangements. Involves students in setting up class rules. Allows children to divide activity among themselves.	Participates and leads extra-curricular activities with students. Exposes students to new experiences. Places individual with peers who are reinforcing.	Leads field trips. Is present at parent teacher conferences, and contributes to them. Allows friends to come to class. Encourages parent participation.
Sets up and carries through some instructional activities.	Administers group test. Keeps records on individual performance. Prepares growth charts. Compares child's work with his previous evaluation.	Sets up curriculum files of materials. Contracts with children. Helps children locate reference materials, to use library, etc.	Shows movies to large groups, answers questions. Gives factual information when child requests it. Holds story-telling sessions.	Supervises small groups of children. Allows noise if reasonable amount. Reinforces good behavior, ignores poor behavior. Arranges for child to work independently.	Guides children in extra independent projects. Talks to them about themselves. Uses socio-drama to have self-understanding.	Involves children in naming activities outside of school. Reports in writing student progress. Participates in community activities with children.
Follows instructions and carries out routines.	Collates tests. Delivers confidential materials. Sets up testing dates and publicizes. Fills out report cards.	Passes out materials. Produces transparencies, tapes, stories, etc. Makes sure each child gets his study things.	Tutors children in specific task with study materials. Participates in simulated games.	Collects lunch or milk money. Sets up bulletin board with children. Diverts children starting undesirable activity.	Takes new children to class, introduces them to a variety of others. Helps a child with some minor or physical problem.	Sends invitations to parents. Writes out notices for field trips. Keeps a schedule of parent conferences.

It should be noted that the proposed structure dealt with the teacher behaviors, or functions, without any reference to student outcomes. Both in the work conducted at the Rand Center in Texas and in our own discussions with teachers, we had evidence that teachers' behaviors which may be classified as "desirable" need not always be directed to produce student outcomes. In our own consortium with school districts including respresentatives of teacher associations we were told in no uncertain terms that now teachers are concerned with achieving their own objectives, not only objectives related to students. For example, a behavior like "participating in the local teacher association," may have no relevance to producing student outcomes, but from a teacher's point of view may be very desirable. Yet the structure in Table 1 assumed that desirable teacher behaviors would have, as their final objective, some learning on the part of the student. Thus, it appeared that this initial structure was not sufficiently comprehensive. It also was not structured well enough to systematically differentiate between behaviors which were and were not directed to achieving results with students.

Deductive modification of the initial structure. When the inductive approach went as far as it could and ran into a dead-end, the next obvious step was to start with its results and proceed deductively. The details of the long meetings, etc., will not be given here. It should suffice to mention that three professors and three research assistants in the Bureau of Educational Evaluation at Hofstra worked as a group to first generate the next category system and some of the behaviors representing the categories. Table 2 presents the new schema with two

sample behaviors in each cell. There were six behaviors in each category which were later put into a survey instrument to determine empirically the importance of these behaviors to elementary and secondary school teachers. This survey will be described briefly later; since to date, it is the only empirical evidence we have concerning the verification of the categories.

Table 2. Sample Performances in the Second Taxonomic Structure.

		BEHAVIOR CATEGORIES					
		Diagnosis and Evaluation	Subject-content and Curriculum	Teaching Strategy and Communication	Organizational Patterns	Routines and Management	Community Relations
COGNITIVE	Student-Related	Uses multiple sources to assess child's ability. Compares amount of work a child completes in a given time with amount expected of him.	Combines subject-matter areas into a related unit meaningful to the student. Break down subject matter into small units appropriate to students.	Ask students to find their own answer rather than give them one. Elicits from students suggestions for conducting their own research	Assigns students to teach each other. Assigns students to independent study with prog. material in lab or at comput console.	Teacher gives directions clearly and pricisely so the student can act. Organizes class facilities for different activities.	Ask students to name community resources available for study. Students make up class newspaper which is circulated to parents.
	Teacher-Related	Lists her own strengths and weaknesses to instruct various subjects. Systematically constructs criteria for self-evaluation	Reads recent books and articles related to her area. Defends her sequencing of topics on a logical basis.	Prepares lesson exhibits to reflect her own aesthetic judgment. Uses student reports to increase own knowledge.	Instructs in a team-teaching situation to practice her specialty. Participates in "teacher-assistance" program	Teacher is punctual in meeting classes Attends school at least for the number of days in her contract.	Invites parents with some speciality to present to class. Is a member of school-related community organizations.
AFFECTIVE	Student-Related	Seeks information about student by observing how others react to him. Hypothesizes how her expectation will affect the student's performance.	Conducts class discussions where children share experiences with each other. Brings in humorous materials related to the topic.	Praises students who finish a project (assignment) sooner than expected. Outlines a variety of goals from which a student chooses to meet his own need.	Occasionally pair children who don't get along well so they will get to know each other. Allows children to choose work partners in pupil teams.	Deviates from established routine without getting upset if students request it. Structures class so learning can take place without her presence.	Visits or contacts student's home for feedback in problem areas. Volunteers to participate with students in community functions.
	Teacher-Related	Identifies the extra curricular activities she prefers. Changes her classroom behavior as a result of criticism.	Volunteers extra time to work out schoolwide curriculum problems. Tries out newly suggested topics voluntarily.	Utilizes own hobbies in instruction. Expresses great satisfaction with performing before a class.	States a preference for minimum organization. Seeks organizational patterns which maximize her interaction with colleagues.	Attempts to handle discipline cases first without referring to principa Expresses need for modifying school policy and partici-	Receives a number of requests to speak before other groups in the community. Receives personal invitations from parents.

The proposed model is a theoretical framework with specific teacher behaviors defining each category. The teacher behaviors and the target population of the behaviors are related in the theoretical structure through the identification of whether the behavior is directed to produce a student outcome, or teacher-outcome. Futhermore, the structure identifies two domains of outcome which may be effected by the specified teacher behavior: cognitive, and affective. As a theoretical framework it is heuristic. More behaviors, and more categories, may be generated within this framework. As a taxonomy with operational definitions for each cell in a multi-dimensional organization, it lends itself to empirical studies of teacher performance through multivariate techniques, in relating the teacher behaviors in various categories to desired changes in students resulting from their school experience. It can provide the basis for developing assessment techniques which would yield individual profiles, and for individualizing in teacher-preparation programs as well as in teacher utilization and retraining in the school systems.

Contrasting Table 1 with Table 2 shows some differences which deserve some mention. The new framework attempts to relate teacher behaviors to their possible targets, and includes non-instructional behaviors. The first structure did not include either of these points. However, the first table shows a hierarchical arrangement of behaviors which is omitted in the second table. Since it is highly desirable for a taxonomic organization to have a hierarchy, the reasons for the omission should be stated.

The first taxonomy was based primarily on the instructional functions of the teacher with "level of instructional responsibility" constituting the hierarchical dimension. Since all the behaviors in the second taxonomy are not all related to instruction, this dimension became

inapplicable. It should be noted, however, that the same hierarchical arrangement may be accomplished within those behaviors which are instruction related.

Second, the hierarchical arrangement appeared to equate the proposed taxonomy with the practice of differentiated-staffing as the latter is discussed by Allen (1967), Barbee (1969), Olivero and Buffie (1969). Since differentiated staffing is an administratively determined plan of staff-utilization which implies an a priori determination of employment levels with differential pay scales; etc., and since the taxonomy was not intended to imply levels of employment and administrative responsibility on a priori basis, it seemed advisable, at this time, not to pursue the problem of hierarchy. The position taken here is that the hierarchy in instructional responsibility which might exist in the pro-proposed taxonomy does not necessarily imply a hierarchy in administrative responsibility, which is implied in the differentiated-staffing model.

Empirical evidence related to the taxonomy proposed in Table 2. Based on the category system presented in Table 2, 144 teacher behaviors were specified (six behaviors in each of the 24 cells). 141 elementary and secondary school teachers were asked to rate each behavior twice: first to show how important they thought the behavior was, and second, to show how effectively they thought their teacher-preparation program had trained them to perform that behavior. The detailed report of this study is to be given separately. However, some of the findings should be reported here in as much as they provide some indication of the validity of the taxonomic structure.

The results of the analyses of variance showed no significant differences among any behaviors or categories concerning the effectiveness of teacher-preparation programs. In other words, it is likely that all of these behaviors are dealt with about equally poorly in the teacher-preparation programs. However, the analyses showed highly significant differences among the categories in their importance. Of the six functional areas routines and management was judged as the least important, while curriculum, teaching strategy, and evaluation were judged as quite important. Also, a significant interaction indicated that curriculum and teaching strategy categories are judged as more important in the cognitive area but organizational patterns and community relations appear to be more important in the affec ve area. Evaluation is judged as important in both the affective and the cognitive categories.

Generally, student-related behaviors were judged as more important than teacher-related behaviors, in the elementary group, but not in the secondary group. An examination of responses made to individual items indicated that secondary teachers attached greater importance to involvement with school policy than the elementary teachers did. For example, the statement "Teacher expresses the need for modifications to school policy and participates in their formulation," was ranked fifth in 24 items in the category among the secondary school teachers, but eleventh among the elementary group.

In summary, the empirical evidence from an admittedly limited study lends some support to the validity of the category system proposed, since teachers differentiate among these categories significantly

in relation to their importance in education.

General conclusions, and implications.

The proposed taxonomic arrangement of teacher behaviors appears to be a promising one in several ways. First, it is supported to some degree by empirical evidence. Second, it provides a framework for development of evaluation techniques which can yield a systematic profile of strengths and weaknesses for individual students. It can also be utilized to assess the results of teacher-training programs. Third, it provides a guideline for individualizing both teacher-preparation programs, and utilization of teachers in the field on a more individualized basis. However, it should not be construed as complete, by any means. It needs further investigation and try-out to check its feasibility and applicability in schools of education and in educational practice. At this time, its greatest value probably lies in drawing attention to the existence of alternative ways of looking at teacher preparation and utilization, and in proposing one possible means to individualizing among prospective and practicing teachers.